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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,065	02/26/2002	Boris Iv. Basok	PUL01	2684
7590	06/02/2005		EXAMINER	
Daniel M Kennedy 10105 Burton Glen Drive Rockville, MD 20850			MADSEN, ROBERT A	
			ART UNIT	PAPER NUMBER
			1761	
DATE MAILED: 06/02/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/082,065

Applicant(s)

BASOK ET AL.

Examiner

Robert Madsen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 6-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. The Amendment filed March 2, 2005 has been entered. Claims 1-12 remain pending in the application. Claims 6-11 have been withdrawn from further consideration as being drawn to a non-elected species.

Election/Restrictions

2. Applicants' election with traverse of the species of pressure change in claims 1-5, 12 in the Response filed March 2, 2005 is acknowledged. The traversal is on the ground(s) that in order to search the generic matter claimed, one would have to search all of the species. This is not found persuasive because the forms of energies recited in the various species would require different methods. For example, creating energy formed by a pressure drop versus an electromagnetic wave, would require different methods. These different methods have acquired a different classification and would require a different search. Furthermore, applicant has even disclosed the various recited methods utilize *different* thermophysical effects. Additionally, Hidalgo (EP 535781 A1) is relied on as further evidence that homogenizing with energy may be achieved by *different* methods (Column 2, line 20 to Column 3, line 17).
3. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "within the nanometer size level" in claim 12 is a relative term which renders the claim indefinite. The term "within the nanometer size level" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear "the nanometer size level" is 1 nanometer or up to, but less than 1 micron. Also it is not clear to what numerical range "within" refers (e.g. from $< 1\text{nm}$ to 1 nm).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dolinskiy et al. (The Principles of Developing New Energy-And Resource Efficient Technologies Based on the Methods of Discrete-Pulsed Energy Input).

8. Note especially Page 14, Column 1 at "3.2" to Page 15, Column 2, Paragraph 4, as well as "4.1" on page 16. Also see Page 12, Column 2, Paragraph 2 ; Page 13, Column 1, Paragraph 3 to Column 2, line 2; Page 14, Column 2, Paragraphs 2 and 3; Page 5, Column 2, Paragraphs 3 and 4.

9. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Colman et al. (US 5439991).

10. See Abstract, Column 1, lines 5-51.

11. Claims 1-5 and 12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Gaffney (US 4675194).

12. Gaffney teaches homogenizing a heterogeneous fluid by applying pulse energy (i.e. oscillating sound waves) at an interface region wherein energy is supplied by pressure change, as recited in claims 1-5, 1, and the resulting particle sizes are sub-micron, which is within the nanometer size level, as recited in claim 12 (Column 3, lines 57-66, Column 4, lines 44-65, Column 5, lines 45-28, Column 9, line 19 to Column 10, line 66, Column 12, lines 26-66, Column 14, lines 20-41).

Response to Arguments

13. Applicants' arguments filed March 2, 2005 directed to Claims 1-4 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dolinskiy et al. (The Principles of Developing New Energy-And Resource Efficient Technologies Based on the Methods of Discrete-Pulsed Energy Input) have been fully considered but they are not persuasive. In response to Applicants' argument that Dolinskiy et al. fail to show certain features of Applicants' invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the

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specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicants argue that the reference does not *show* particular features disclosed by Applicant in the specification of the present application : the use of equation 1 or equation 3 to determine the necessary energy to disperse a particle , evaluating the time parameter, when PET occurs most efficiently, that the application is the base for achieving a nano-engineering approach, dealing with nano-level aspects of PET from the point of view of quantum mechanics, or the efficiency of the dynamic and energetic actions on the dispersed phases leading to its destruction and decay is determined by the intensively developing vapor bubbles. However, Dolinskiy et al. do teach the method recited in claims 1-4 on Pages 14-15.

14. The rejection of claim 12 under 35 U.S.C. 102(b) as being clearly anticipated by Dolinskiy et al. (The Principles of Developing New Energy-And Resource Efficient Technologies Based on the Methods of Discrete-Pulsed Energy Input) is withdrawn since Dolinskiy et al. do not teach within the nanometer size level per se.

15. Applicants' arguments, see page 14, paragraph 3, filed March 2, 2005, with respect to Claims 1-4 and 12 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hidalgo (EP 535781 A1) have been fully considered and are persuasive, since Hidalgo does not teach applying energy sufficient to create vapor bubbles manifesting rapid radial growth and rapid collapse. The rejection of Claims 1-4 and 12 under 35 U.S.C. 102(b) as being clearly anticipated by Hidalgo (EP 535781 A1) has been withdrawn.

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16. Applicants' arguments filed March 2, 2005, with respect to the rejection of claims 1-4 and 12 under 35 U.S.C. 102(b) as being clearly anticipated by Gladushnyak et al. (SU 1688809A1) have been considered. The rejection has been withdrawn since Gladushnyak et al. do not teach or suggest vapor bubbles or a nanometer size level as presently recited.

17. Applicants' arguments filed March 2, 2005, with respect to the rejection of claims 1-4 under 35 U.S.C. 102(b) as being clearly anticipated by Colman et al. (US 5439991) have been considered, but they are not persuasive. Applicants contend that the invention of Colman et al. has limited application, Colman et al. has a narrower frequency range, and the production rate is low. However, it is noted that these features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

18. The rejection of claim 12 under 35 U.S.C. 102(b) as being clearly anticipated by Colman et al. (US 5439991) has been withdrawn, since Colman et al. do not teach within the nanometer size level.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Murry (US 3614069) teaches the general concept of preparing homogeneous solutions via pressure change and bubbles that coalesce and collapse.

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Evitts (EP 0480690 A1) teaches forming nanoemulsions from pre-homogenized solutions via pressure change and bubbles that coalesce and collapse.

20. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

21. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Madsen whose telephone number is (571) 272-1402. The examiner can normally be reached on 7:00AM-3:30PM M-F.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.


For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Robert Madsen 
Examiner
Art Unit 1761

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